#### **CLAIMS**

1. An organic electroluminescent display device comprising:

a substrate;

a first electrode and a second electrode formed on the substrate; and

an organic film layer comprising at least one emitting layer between the first electrode and the second electrode,

wherein the emitting layer comprises at least one phosphorescent dopant, and the dopant is represented by L2ML', and wherein the M is a transition metal selected from the group consisting of Ir, Pt, Zn and Os, the L and L' are bidendate ligands coordinated with carbon and nitrogen, and at least one of the L and L' has 15 or more carbon atoms in the ligand.

- 2. The organic electroluminescent display device according to claim 1, wherein at least one of the L and L' has at least two hexagonal ring structures in the ligand.
- 3. The organic electroluminescent display device according to claim 1, wherein the emitting layer comprises subsidiary pixels of a red emitting layer, a green emitting layer and a blue emitting layer.
- 4. The organic electroluminescent display device according to claim 3, wherein the blue emitting layer is a fluorescent emitting layer.
- 5. The organic electroluminescent display device according to claim 3, wherein the blue emitting layer comprises the phosphorescent dopant, and any one of the L and L' comprises a dopant having less than 15 carbon atoms in the ligand.
- 6. The organic electroluminescent display device according to claim 1, wherein the L and L' are not identical to each other, and are any one compound selected from the following chemical formulas 1 to 15:

#### Chemical Formula 1

# Chemical Formula 2

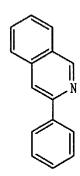
### Chemical Formula 4

### Chemical Formula 5

### Chemical Formula 6

### Chemical Formula 8

# Chemical Formula 9

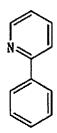


### Chemical Formula 11

### Chemical Formula 12

# Chemical Formula 13

#### Chemical Formula 15



7. The organic electroluminescent display device according to claim 1, wherein the L2ML' is a compound represented by the following chemical formulas 16 to 22:

### Chemical Formula 16

### Chemical Formula 18

# Chemical Formula 19

#### Chemical Formula 21

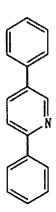
- 8. The organic electroluminescent display device according to claim 1, wherein the organic film layer further comprises at least one layer selected from a hole injection layer, a hole transport layer, an electron transport layer, an electron injection layer and a hole blocking layer.
- 9. The organic electroluminescent display device according to claim 8, wherein the organic film layer comprises a red emitting layer, a green emitting layer and a blue fluorescent emitting layer, and wherein the hole blocking layer is formed on an upper part of the red emitting layer and the green emitting layer.
- 10. The organic electroluminescent display device according to claim 4, wherein the blue fluorescent emitting layer is formed on an upper part of the red and green phosphorescent emitting layers I over a front surface of the substrate as a common layer.

11. The organic electroluminescent display device according to claim 1, wherein the second electrode is a cathode electrode if the first electrode is an anode electrode, and the second electrode is an anode electrode if the first electrode is a cathode electrode.

- 12. An organic electroluminescent display device comprising: a substrate;
- a first electrode and a second electrode formed on the substrate; and an organic film layer comprising at least one emitting layer between the first electrode and the second electrode,

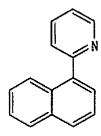
wherein the emitting layer comprises at least one phosphorescent dopant, and the dopant is represented by L3M, and wherein the M is a transition metal selected from the group consisting of Ir, Pt, Zn and Os, and the L is a bidendate ligand coordinated with carbon and nitrogen and has 15 or more carbon atoms in the ligand.

- 13. The organic electroluminescent display device according to claim 12, wherein the L has at least two hexagonal ring structures in the ligand.
- 14. The organic electroluminescent display device according to claim 12, wherein the L is any one compound selected from compounds represented by the following chemical formulas 1 to 14:



### Chemical Formula 2

# Chemical Formula 3

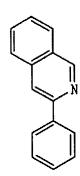


# Chemical Formula 5

### Chemical Formula 6

# Chemical Formula 8

### Chemical Formula 9



# Chemical Formula 11

### Chemical Formula 12

Chemical Formula 14

15. The organic electroluminescent display device according to claim 12, wherein the L3M is a compound represented by the following chemical formulas 23 to 31:

Chemical Formula 23

# Chemical Formula 25

# Chemical Formula 26

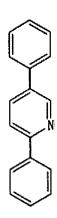
### Chemical Formula 28

# Chemical Formula 29

- 16. The organic electroluminescent display device according to claim 12, wherein the emitting layer comprises a red emitting layer, a green emitting layer and a blue emitting layer to generate red, green and blue colors, respectively, using subsidiary pixels.
- 17. The organic electroluminescent display device according to claim 16, wherein the blue emitting layer is a blue fluorescent emitting layer.
- 18. The organic electroluminescent display device according to claim 17, wherein the blue fluorescent emitting layer is formed on an upper part of the red and green phosphorescent emitting layers over a front surface of the substrate as a common layer.
- 19. The organic electroluminescent display device according to claim 12, wherein the organic film layer further comprises at least one layer selected from a hole injection layer, a hole transport layer, an electron transport layer, an electron injection layer and a hole blocking layer.
- 20. The organic electroluminescent display device according to claim 19, wherein the organic film layer comprises a red emitting layer, a green emitting layer and a blue fluorescent emitting layer, and wherein the hole blocking layer is formed on an upper part of the red emitting layer and the green emitting layer.
- 21. The organic electroluminescent display device according to claim 12, wherein the second electrode is a cathode electrode if the first electrode is an anode electrode, and the second electrode is an anode electrode if the first electrode is a cathode electrode.

22. An emitting compound having a chemical structure of L2ML' or L3M, wherein the M is a transition metal selected from the group consisting of Ir, Pt, Zn and Os, the L and L' are bidendate ligands coordinated with carbon and nitrogen, and at least one of the L and L' has 15 or more carbon atoms in the ligand.

23. The emitting compound according to claim 22, wherein the L and L' are not identical to each other and are any one compound of the following chemical formulas 1 to 15: Chemical Formula 1



### Chemical Formula 3

### Chemical Formula 4

# Chemical Formula 6

### Chemical Formula 7

### Chemical Formula 9

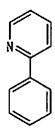
# Chemical Formula 10

Chemical Formula 12

Chemical Formula 13

Chemical Formula 14

Chemical Formula 15



24. The emitting compound according to claim 22, wherein the L2ML' is any one compound selected from compounds represented by the following chemical formulas 16 to 22:

### Chemical Formula 16

# Chemical Formula 17

$$\left(\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \end{array}\right)_{2}$$
  $Ir$ 

### Chemical Formula 19

### Chemical Formula 20

#### Chemical Formula 22

25. The emitting compound according to claim 22, wherein the L3M is any one compound selected from compounds represented by the following chemical formulas 23 to 31: Chemical Formula 23

### Chemical Formula 25

# Chemical Formula 26

### Chemical Formula 28

# Chemical Formula 29